REMARKS

Claims 1-5, 15, 16, 31, 32, 38-42 and 48-53 are pending in the above-referenced application. Claims 2, 5, 15, 16 and 48-50 have been cancelled without prejudice. As will be discussed in further detail below, claims 1, 3, 4, 25 and 26 have been amended to more distinctly claim that which Applicants regard as their invention. Claims 39-42 have been amended so that they are now directed to "compositions". New claim 54 has been added to recite a specific embodiment and is supported by the specification on page 19 lines 6-10.

I. The Rejection of Claims 1-5, 15-16, 25-28, 31-32 and 38-42 under 35 U.S.C. 112, first paragraph

Claims 1-5, 15-16, 25-28, 31-32, and 38-42 were rejected under 35 U.S.C. 112, first paragraph, because the specification allegedly does not reasonably provide enablement for all of the compounds encompassed in formula (I) in claim 1. According to the Office Action, the specification lacks direction and guidance for placing all of the alleged products in the possession of the public without inviting more than routine experimentation. (Office Action, pages 2-3.)

Applicants respectfully traverse the rejection. However, in order to advance prosecution, claims 1, 3, 4, 25 and 26 have been amended and claims 2, 5, 15, 16 and 48-50 have been canceled. Applicants however do reserve the right to file subsequent continuation and/or divisional applications on subject matter originally encompassed by claim 1.

Amended claim 1 specifically recites that A^1 and A^2 are independently of each other a saturated, unsaturated or aromatic 5-6 membered cyclic ring system containing one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, selected from the group consisting of cyclopentyl, cyclohexyl, phenyl, thiophenyl, furanyl, pyridinyl wherein said ring system is optionally substituted with one or more halogen, perhalomethyl, hydroxy, C_{1-6}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, heteroaryl,

heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-6}-alkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, aryloxyC_{1-6}-alkyl, or arylalkoxyC_{1-6}-alkyl; that M is OR^7, where R^7 is hydrogen, C_{1-12}-alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl, aryl, arylalkyl, C_{1-12}-alkoxyC_{1-12}-alkyl, acyl, heteroaryl, or heteroarylalkyl groups optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano or M is COYR; that heteroaryl is selected from furanyl, thiophenyl and pyridinyl; that heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherin said heteroaryl is selected from furanyl, thiophenyl and pyridinyl; arylene is a divalent aromatic ring, selected from the group consisting of phenylene and naphthylene; and heteroarylene is a divalent heteroaryl group selected from furanyl, thiophenyl and pyridinyl and that aryl is selected from the group consisting of phenyl and naphtyl In Applicants' view, amended claim 1 is enabled by the specification. Claims 3 and 4 have been amended to conform with amended claim 1. Applicants further assert that claims 15-16, 25-28, 31-32 and 39-42 which ultimately depend from claim 1, would be enabled by the specification as well.

Applicants further assert that claim 38 is enabled by the specification. Claim 38 is now an independent claim and recites specific compounds. Applicants point out that in the Office Action dated September 25, 2000, claim 38 was merely objected to as being dependent on a rejected base claim. The objection was overcome by the claim amendment in the response filed on March 20, 2001.

In view of the amendments of claims 1, 3, 4, 25 and 26 and the above arguments, Applicants assert that the rejection of claims 1-5, 15-16, 25-28, 31-32, and 38-42 have been overcome. Therefore, Applicants respectfully request that the rejections be withdrawn.

II. The Rejection of Claims 1-5, 15-16, 25-28, 31-32, 38-42 under 35 U.S.C. 112, second paragraph

Claims 1-5, 15-16, 25-28, 31-32, and 38-42 were rejected under 35 U.S.C. 112, second paragraph, for allegedly being indefinite because of the terms: "5-6 membered cyclic ring", "heterocyclyl", "heteroaryl", "heteroarylalkyl", "heteroaryloxy", "heteroarylalkoxy", "arylene" or "heteroarylene". This rejection is respectfully traversed. However, in order to advance prosecution, claim 1 has been amended to recite that the 5-6 membered cyclic ring system contains one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, selected from the group consisting of cyclopentyl, cyclohexyl, phenyl, thiophenyl, furanyl, pyridinyl wherein said ring system is optionally substituted with one or more halogen, perhalomethyl, hydroxy, C_{1-6}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, heterocyclyl, heteroaryl, heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-6}-alkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, aryloxyC_{1-6}-alkyl, or arylalkoxyC_{1-6}-alkyl; that heteroaryl is selected from furanyl, thiophenyl and pyridinyl, aryl is selected from the group consisting of phenyl and naphtyl, that heteroaryloxy is a heteroaryl group linked to an oxygen atom; heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thiophenyl and pyridinyl; that arylene is a divalent aromatic ring, selected from the group consisting of phenylene and naphthylene and that heteroarylene is a divalent heteroaryl group selected from furanyl, thiophenyl and pyridinyl. Amended claim 1 is supported by the specification on page 17, lines 1-7 and page 18. Furthermore, claim 3 specifically defines heteroaryl, aryl, heteroaryloxy, heteroarylalkoxy, heteroarylalkyl; claim 4 specifically defines aryl; claim 25 specifically defines heteroaryl and claim 26 specifically defines heteroaryl, aryl arylalkyl and heteroaryl.

In view of the amendment of claims 1, 3-4 and 25-26 and the above arguments, Applicants assert that the rejections under 35 U.S.C. §112, second paragraph have been overcome. Therefore, Applicants respectfully request that the rejections be withdrawn.

III. Claim Objection

Claims 48-52 have been objected to as being dependent on a rejected claims. Claims 48-50 have been canceled. Claims 51-52 depend from claim 38. As argued above, claim 38 is enabled by the specification. Therefore, Applicants respectfully request that the objections be withdrawn.

IV. Conclusion

In view of the above, it is respectfully submitted that all of the pending claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone at (914) 712-0093 if there are any questions concerning this amendment or application.

Respectfully submitted,

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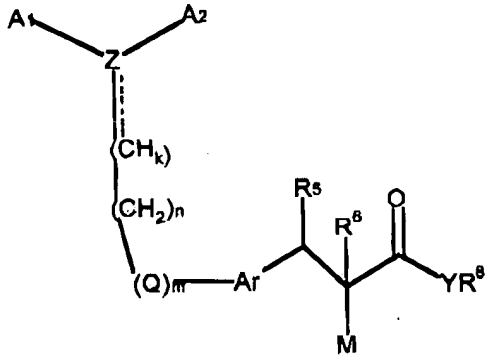
AMENDED CLAIMS-MARKED UP VERSION

1. (Amended Twice) A compound of formula (I)



(I)

wherein wherein A^1 and A^2 are independently of each other a saturated, unsaturated or aromatic 5-6 membered cyclic ring system containing one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, selected from the group consisting of cyclopentyl, cyclohexyl, phenyl, thiophenyl, furanyl, pyridinyl wherein said ring system is optionally substituted with one or more halogen, perhalomethyl, hydroxy, C_{1-6}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, heteroaryl, heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-6}-alkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, aryloxyC_{1-6}-alkyl, or arylalkoxyC_{1-6}-alkyl;

~~A^1 and A^2 are independently of each other a saturated, unsaturated or aromatic 5-6 membered cyclic ring system containing one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, which is optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro, cyano, formyl, or C_{1-12}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl, C_{1-12}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, heterocyclyl, heteroaryl, heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl,~~

~~acyloxy, hydroxyC_{1-12}-alkyl, amino, acylamino, C_{1-12}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-12}-alkyl, C_{1-12}-alkoxycarbonyl, alkylaminocarbonyl, aryloxycarbonyl, arylalkoxycarbonyl, C_{1-12}-alkoxyC_{1-12}-alkyl, aryloxyC_{1-12}-alkyl, arylalkoxyC_{1-12}-alkyl, arylthio, C_{1-12}-alkylthio, thioC_{1-12}-alkyl, C_{1-12}-alkoxycarbonylamino, aryloxycarbonylamino, arylalkoxycarbonylamino, $-COR^1$, or $-SO_2R^2$, wherein R^1 and R^2 independently of each other are selected from hydroxy, halogen, perhalomethyl, C_{1-6}-alkoxy or amino optionally substituted with one or more C_{1-6}-alkyl, perhalomethyl or aryl; optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano;~~

Z is C ~~or CR^3, wherein R^3 is hydrogen, halogen, perhalomethyl, C_{1-12}-alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl, C_{1-12}-alkoxy, aryloxy, arylalkoxy, heteroaryloxy, heteroarylalkoxy, acyl, acyloxy, hydroxyC_{1-12}-alkyl, C_{1-12}-alkoxyC_{1-12}-alkyl, aryloxyC_{1-12}-alkyl, arylalkoxyC_{1-12}-alkyl, thioC_{1-12}-alkyl, $-COR^4$, or $-SO_2R^{11}$, wherein R^4 and R^{11} independently of each other are selected from hydroxy, halogen, perhalomethyl, C_{1-6}-alkoxy or amino optionally substituted with one or more C_{1-6}-alkyl, perhalomethyl or aryl optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano~~;

Q is O or S;

------ represents a single bond or a double bond;

Ar is arylene or heteroarylene;

R^5 is hydrogen;

R^6 is hydrogen;

M is OR^7, where R^7 is hydrogen, C_{1-12}-alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl, aryl, arylalkyl, C_{1-12}-alkoxyC_{1-12}-alkyl, ~~C_{1-12}-alkoxycarbonyl, aryloxycarbonyl, C_{1-12}-alkylaminocarbonyl, arylaminocarbonyl,~~ acyl, heteroaryl, or heteroarylalkyl groups optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano or M is $COYR^8$;

R^8 is hydrogen, C_{1-12}alkyl, C_{4-12}-alkenynyl, C_{2-12}-alkenyl, C_{2-12}-alkynyl;

Y is oxygen;

k is an integer from 1 to 2, n and m are 1;

~~wherein heterocyclyl is a saturated or unsaturated nonaromatic group having 5 or 6 ring atoms containing one to four carbon atoms and one to four heteroatoms selected from N, O or S;~~
~~heteroaryl is a 5 to 6 membered monocyclic or a 9 to 10 membered bicyclic aromatic system containing one or more heteroatoms selected from N, O or S;~~
~~heteroarylalkyl is a straight or branched C_{1-6} alkyl group further substituted with a heteroaryl group;~~
wherein heteroaryl is selected from furanyl, thiophenyl and pyridinyl;

aryl is selected from the group consisting of phenyl and naphtyl;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl, 2-(1-naphtyl)ethyl;

heteroaryloxy is a heteroaryl group linked to an oxygen atom;

heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thiophenyl and pyridinyl;

arylene is a divalent aromatic ring, selected from the group consisting of phenylene and naphthylene; ~~and~~

heteroarylene is a divalent heteroaryl group selected from furanyl, thiophenyl and pyridinyl;.

or a salt thereof with a pharmaceutically acceptable acid or base, or any optical isomer or mixture of optical isomers, or any tautomeric forms.

4. ~~3.~~ (Amended Three Times) The compound of claim 1, wherein A^1 and A^2 are independently of each other ~~a saturated, unsaturated or aromatic 5-6 membered cyclic ring system containing one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, which is~~ optionally substituted with one or more halogen, perhalomethyl, hydroxy, C_{1-6}-alkyl, (C_{3-6}-cycloalkyl)C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, C_{1-6}-alkoxy, aryl, aryloxy, arylalkyl, arylalkoxy, ~~heterocyclyl,~~ heteroaryl, heteroarylalkyl, heteroaryloxy, heteroarylalkoxy, acyl, hydroxyC_{1-6}-alkyl, C_{1-6}-alkyl-amino, C_{1-6}-dialkylamino, arylamino, arylalkylamino, aminoC_{1-6}-alkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, aryloxyC_{1-6}-alkyl, or arylalkoxyC_{1-6}-alkyl~~,~~.

wherein heteroaryl is selected from furanyl, thiophenyl and pyridinyl;

aryl is selected from the group consisting of phenyl and naphtyl;

heteroaryloxy is a heteroaryl group linked to an oxygen atom;

heteroarylalkoxy is a heteroarylalkyl group linked to an oxygen atom, wherein said heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thiophenyl and pyridinyl.

4. (Amended Three Times) The compound of claim 1, wherein A^1 and A^2 are independently of each other ~~are a saturated, unsaturated or aromatic 5-6 membered cyclic ring system containing one or more carbon atoms and optionally from one to four heteroatoms selected from N, O or S, which is~~ optionally substituted with one or more halogen, C_{1-6}-alkyl, C_{1-6}-alkoxy or aryl, wherein aryl is selected from the group consisting of phenyl and naphtyl.

25. (Amended Twice) The compound of claim 1, wherein M is OR^7, where R^7 is hydrogen, C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, aryl, arylalkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, C_{1-6}-alkoxycarbonyl, aryloxycarbonyl, C_{1-6}-alkylaminocarbonyl, arylaminocarbonyl, acyl, ~~heterocyclyl,~~ heteroaryl or heteroarylalkyl groups optionally substituted with one or more halogen, perhalomethyl, hydroxy, nitro or cyano~~,~~ wherein heteroaryl is selected from furanyl, thiophenyl and pyridinyl;

aryl is selected from the group consisting of phenyl and naphtyl;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl, 2-(1-naphtyl)ethyl;

heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thiophenyl and pyridinyl.

26. (Amended Twice) The compound of claim 1, wherein M is OR^7, where R^7 is hydrogen, C_{1-6}-alkyl, C_{4-6}-alkenynyl, C_{2-6}-alkenyl, C_{2-6}-alkynyl, aryl, arylalkyl, C_{1-6}-alkoxyC_{1-6}-alkyl, ~~heterocyelyl,~~ heteroaryl or heteroarylalkyl groups optionally substituted with one or more halogen or perhalomethyl.

wherein heteroaryl is selected from furanyl, thiophenyl and pyridinyl;

aryl is selected from the group consisting of phenyl and naphtyl;

arylalkyl is selected from the group consisting of benzyl, phenethyl, 3-phenylpropyl, 1-naphtylmethyl, 2-(1-naphtyl)ethyl;

heteroarylalkyl is a straight or branched saturated carbon chain containing from 1 to 6 carbons substituted with a heteroaryl group, wherein said heteroaryl is selected from furanyl, thiophenyl and pyridinyl.

39. (Amended twice) A ~~pharmaceutical~~ composition comprising, as an active ingredient, an effective amount of the compound of claim 1, together with a pharmaceutically acceptable carrier or diluent.

40. (Amended twice) The ~~pharmaceutical~~ composition of claim 39 in unit dosage form, comprising from about 0.05 to about 100 mg of the compound.

41. (Amended twice) The ~~pharmaceutical~~ composition of claim 39 in unit dosage form, comprising from about 0.1 to about 100 mg of the compound.

42. (Amended twice) The ~~pharmaceutical~~ composition of claim 39 which is administered by the oral, nasal, transdermal, pulmonary, or parenteral route.